

ILLEGIB

Approved For Release 2000/06/14 : CIA-RDP78T05439A000300100015-5

Next 3 Page(s) In Document Exempt

Approved For Release 2000/06/14 : CIA-RDP78T05439A000300100015-5

25X1C

NOFORN

~~SECRET~~

(DOWNGRADING PROHIBITED)

S-11081

PIC/JR-1022/61

May 1961

JOINT PHOTOGRAPHIC INTELLIGENCE REPORT

JB

1-15-61

**MINES AND MILLS
IN THE
FERGANA VALLEY AREA, USSR**

DECLASS REVIEW BY NIMA / DoD



ARMY

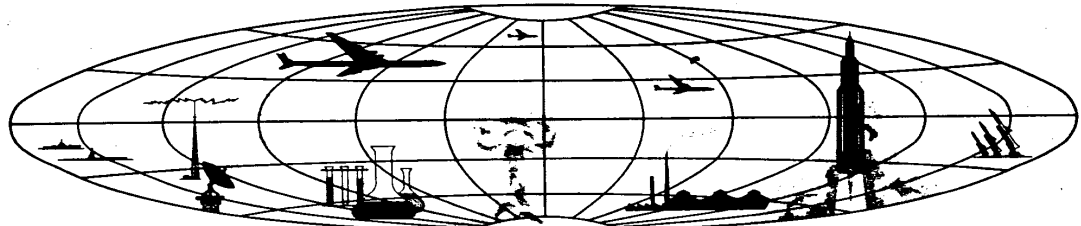


NAVY



CIA

Published and Disseminated by
CENTRAL INTELLIGENCE AGENCY
PHOTOGRAPHIC INTELLIGENCE CENTER



25X1C

NOFORN

~~SECRET~~

(DOWNGRADING PROHIBITED)

25X1C

NOFORN

SECRET

JOINT PHOTOGRAPHIC INTELLIGENCE REPORT

**MINES AND MILLS
IN THE
FERGANA VALLEY AREA, USSR**

PIC/JR-1022/61

May 1961

Published and Disseminated by
CENTRAL INTELLIGENCE AGENCY
PHOTOGRAPHIC INTELLIGENCE CENTER

25X1C

NOFORN

SECRET

25X1C

NOFORN

SECRET

PIC/JR-1022/61

INTRODUCTION

25X1D

This report is the result of a search for uranium-producing mines on [REDACTED] photography of the Fergana Valley area and of the Frunze and Lake Issyk-kul' areas, north and east of the Fergana Valley, in southwestern Asiatic USSR. According to geological information available in Soviet literature, this portion of the USSR is mostly uraniferous. 1/ Ore bodies of grades sufficiently high for exploitation have been reported from many areas in the vicinity. Each mine and possible ore mill was sought out on photography and described. Several mining and milling enterprises, such as those at Mayli-Say, were selected for special study. The present report dwells briefly on the remaining suspect mines and mills.

Each description in the report consists of 1) a number which refers to the site location on the map accompanying the report; 2) a descriptive title and geographic reference with coordinates; 3) a brief narrative of significant features, and 4) a photo reference.

A list of references and an index of places cited in the report follow the descriptions.

1. UNIDENTIFIED MINE 18 NAUTICAL MILES (NM) NORTHEAST OF GEORGIYEVKA (43-10N 72-02E)

This large mining enterprise consists of a mine area and a town. The mine area has at least four separate waste piles indicating four shafts, and a small, possible processing plant. The town has approximately 60 buildings including administrative, warehouse, and residential types.

25X1D

2. UNIDENTIFIED MINES 4 NM SOUTH OF ORLOVKA (42-41N 75-34E)

25X1D

This area has two large, open-pit mines and at least two primary processing plants. [REDACTED]

- 3 -

25X1C

NOFORN

SECRET

25X1C

NOFORN

SECRET

PIC/JR-1022/61

3. TWO UNIDENTIFIED MILLS IN CENTER OF FRUNZE (42-52N 74-35E)

An industrial plant south of the railroad has a thermal electric plant with a large coalyard in which three piles of light-toned material and one larger pile of dark material, resembling ore, are found. The other plant buildings are fabrication and assembly types and do not appear to be involved in chemical- or heat-processing. This may be a dispatch plant for the classification and shipping of ore. The other plant consists of a single building with two piles of material, one light toned and one dark, in the yard. [REDACTED]

25X1D

4. UNIDENTIFIED MINES APPROXIMATELY 7 NM SOUTHEAST OF CHAYEK (41-48N 74-32E)

An open cut has been made here such as would follow and expose a vein. Waste piles indicate possibility of subsurface mines. There are also numerous trench-type prospecting pits in the area. A small explosives magazine is located in a ravine which affords it partial concealment.

25X1D

5. UNIDENTIFIED MINES AND A POSSIBLE MILL 10 NM SOUTHEAST OF DUNGURME (41-40N 74-27E)

This is a very large mining enterprise with numerous mines, at least two primary processing plants, a mining town, and a possible concentration plant. Clouds cover much of the area in available photography and analysis of the concentration plant in particular is very difficult. [REDACTED]

25X1D

25X1D

6. COAL MINE ON EDGE OF VILLAGE 2 NM NORTH OF TASHKUMYR (41-23N 72-13E)

- 4 -

25X1C

NOFORN

SECRET

25X1C

NOFORN

SECRET

PIC/JR-1022/61

25X1D

The adit of a large coal mine enters the hillside. [REDACTED]

25X1D [REDACTED]

25X1B

8. UNIDENTIFIED MINES APPROXIMATELY 2 NM NORTH OF TASHKUMYR (41-23N 72-12E)

25X1D

This group consists of six active open-pit mines and many small pits which are little more than prospect holes. The dark tone of the pits suggest coal or lignite. [REDACTED]

9. COAL MINE ON EDGE OF TASHKUMYR (41-20N 72-13E)

25X1D

A railroad crosses the Naryn River on a bridge and leads directly into the mine. [REDACTED]

10. UNIDENTIFIED MINE APPROXIMATELY 10 NM NORTH OF UCHKURGAN (41-18N 72-02E)

25X1D

This mine has two headframes and a circular railroad which removes waste to a common dump. Outside the town of Uch Kurgan industrial construction is proceeding at an early stage, possibly for an ore concentration plant. [REDACTED]

11. UNIDENTIFIED MINES APPROXIMATELY 5 NM WEST OF KARABASHAT (41-40N 71-30E)

- 5 -

25X1C

NOFORN

SECRET

25X1C

SECRET

NOFORN

PIC/JR-1022/61

25X1D

Two areas of probable mine tailings are found here. [REDACTED]

25X1D

12. UNIDENTIFIED MINES APPROXIMATELY 7 NM NORTHWEST OF KYZYLTOKOY (41-28N 71-13E)

25X1D

A large mining area with a primary processing plant and an extensive waste dump is found along the north side of Kassansay Valley. [REDACTED]

25X1D

13. UNIDENTIFIED MINES NEAR KYZYLTOKOY (41-23N 71-19E)

25X1D

Three mines with headframes are active. Three other waste dumps suggest inactive mines. One of the mines has large buildings associated indicating possible primary processing. [REDACTED]

14. UNIDENTIFIED MINING AREA APPROXIMATELY 5 NMSOUTHWEST OF SUZAK (40-50N 72-50E)

25X1D

Three small piles of dark material are visible, probably at the portals of short tunnels. It is possible that 300 to 500 tons of ores may have been removed from here without leaving a large quantity of waste rock, and that this area is in an eastward continuation of the ore-bearing horizons at Mayli-Say. [REDACTED]

15. COAL MINE 10 NM SOUTHEAST OF ARAVAN (40-21N 72-38E)

25X1D

A small mine is located here. [REDACTED]

16. TYUYA MUYUN SITE APPROXIMATELY 7 NM SOUTHEAST OF ARAVAN (40-25N 72-35E)

Only prospecting trenches and pits show former uranium mining

- 6 -

25X1C

SECRET

NOFORN

25X1C

SECRET

NOFORN

PIC/JR-1022/61

activity. The buildings are in ruins and no present activity is visible.

25X1D

17. UNIDENTIFIED MINES APPROXIMATELY 8 NM SOUTH OF ARAVAN (40-23N 72-30E)

This small enterprise has spoil piles radiating from the portals of two shafts.

25X1D

18. COAL MINES AT KYZYL-KIYA (40-13N 72-09E)

25X1D

Two large coal mines are located here.

19. UNIDENTIFIED MILL AT MUYAN (40-19N 71-58E)

An unidentified chemical processing plant is undergoing expansion; two new buildings are being added. No security or waste disposal provisions are visible.

25X1D

20. UNIDENTIFIED MILL IN CITY OF FERGANA (40-24N 71-46E)

A group of industrial buildings are dust covered and connected by conveyers. Among the buildings is a storage yard served by an overhead conveyer and holding a light-toned material which may be ore. Four small cylindrical tanks suggest acid storage.

25X1B

25X1B

25X1D

21. UNIDENTIFIED MILL AT LYANGAR (40-04N 71-42E)

This industrial plant is located on the western side of the valley. It has the appearance of an ore-processing plant. No mines can be identified but track activity west of the plant area suggests mining.

25X1D

25X1D

- 7 -

25X1C

SECRET

NOFORN

25X1C

SECRET

NOFORN

PIC/JR-1022/61

22. UNIDENTIFIED MINE NEAR TUYA-BAY-KURGAN (40-08N 71-16E)

25X1D

A large, open-pit mine and a primary processing plant are visible here. [REDACTED]

23. UNIDENTIFIED MILL 3 NM EAST OF PAP (40-53N 71-10E)

25X1B

An industrial plant, probably a thermal power plant, is located alongside the railroad east of Pap. [REDACTED]

25X1B

24. GROUP OF UNIDENTIFIED MINES NEAR VILLAGE OF CHIRKASAR (41-01N 70-53E)

25X1D

Mines are faintly visible. [REDACTED]

25. UNIDENTIFIED MINES NEAR VILLAGE OF MAZAR (41-02N 70-43E)

25X1D

Two mines are faintly visible. [REDACTED]

26. CHEMICAL PLANT, SOUTH SIDE OF KOKAND (40-31N 70-56E)

25X1D

A large plant possibly produces sulfuric acid. [REDACTED]

27. UNIDENTIFIED MINE NEAR VILLAGE OF SHOR-SU (40-17N 70-47E)

25X1D

25X1D

This enterprise has a large open-pit mine dug into the cuesta on the edge of an uplift. There are two primary processing plants. [REDACTED]

28. COAL MINES 4 NM SOUTHWEST OF ISFARA (40-03N 70-34E)

- 8 -

25X1C

SECRET

NOFORN

25X1C

SECRET

NOFORN

PIC/JR-1022/61

25X1D

Two large coal mines are seen in a distant view. [REDACTED]

25X1D

25X1B

30. UNIDENTIFIED MINE 10 NM SOUTHWEST OF KANIBADAM (40-10N 70-20E)

25X1D

A small mine with one shaft and waste pile is associated with a primary processing plant. The plant is partly cloud covered. [REDACTED]

25X1D

25X1B

32. COPPER MILL IN CENTER OF ALMALYK (40-49N 69-39E)

25X1D

25X1D

This is possibly a copper ore concentration mill. [REDACTED]

33. COPPER MINES AT ALMALYK (40-49N 69-40E)

25X1D

25X1D

Large open-pit mines are visible here. [REDACTED]

- 9 -

25X1C

SECRET

NOFORN

25X1C

SECRET

NOFORN

PIC/JR-1022/61

34. PROBABLE COPPER ORE CONCENTRATION MILL 2 NM SOUTH OF ALMALYK (40-47N 69-39E)

25X1B This mill is probably a copper concentrator.

25X1B

25X1D

25X1D

35. UNIDENTIFIED MINES 4 NM NORTH OF TABOSHAR (40-41N 69-38E)

25X1D A new mining enterprise of considerable size is visible. An aerial ore tramway leads to Almalyk.

36. UNIDENTIFIED MINE AT KANSAY-DARBASA (40-30N 69-42E)

25X1D

25X1D One mine and primary processing plant are located here.

37. UNIDENTIFIED MINES ON NORTHWEST SIDE OF KANSAY-DARBASA (40-31N 69-40E)

25X1D Four small mines and extensive exploration trenches are in the area.

38. ARSENIC MINES AT TAKELI (40-29N 69-25E)

25X1D At least one active mine with a primary processing plant and possibly three other mines are seen. Arsenic mining is known in this area. 1/

39. POSSIBLE TUNGSTEN MINES AT CHORUKH-DAYRON (40-24N 69-39E)

- 10 -

SECRET

NOFORN

25X1C

25X1C

NOFORN

SECRET

PIC/JR-1022/61

25X1D

Two mines, believed to be tungsten, are associated with a primary processing plant and a waste pond. 1/ [REDACTED]

40. UNIDENTIFIED MILL AT ISPISAR (40-14N 69-44E)

A small, ore-processing mill is adjacent to the large uranium mill here. The small plant probably processed uranium ore before construction of the large mill. [REDACTED] 25X1D

41. COAL MINES AT SULYUKTA (39-57N 69-35E)

25X1D

A large coal-mining center is found here. [REDACTED]

25X1C

NOFORN

SECRET

25X1C

SECRET

NOFORN

PIC/JR-1022/61

INDEX OF GEOGRAPHIC NAMES

City	Item No	City	Item No
Almalyk	32, 33, 34, 35	Kyzyl-Kiya	18
Aravan	15, 16, 17	Lyangar	21
Chayek	4	Mazar	25
Chirkasar	24	Muyan	19
Chorukh-Dayron	39	Orlovka	2
Dungurme	5	Pap	23
Fergana	20	Shor-Su	27
Frunze	3	Salyukta	41
Georgiyevka	1	Suzak	14
Isfara	28	Taboshar	35
Ispisar	40	Takeli	38
Kanibadam	29, 30	Tashkumyr	6, 7, 8, 9
Kansay-Darbasa	36, 37	Tuya-Bay-Kurgan	22
Kara-Bashat	11	Tyuya Muyun	16, 17
Kokand	26	Uch Kurgan	10
Kurama	31	Uygur-Say	23
Kyzyltokoy	12, 13		

- 12 -

25X1C

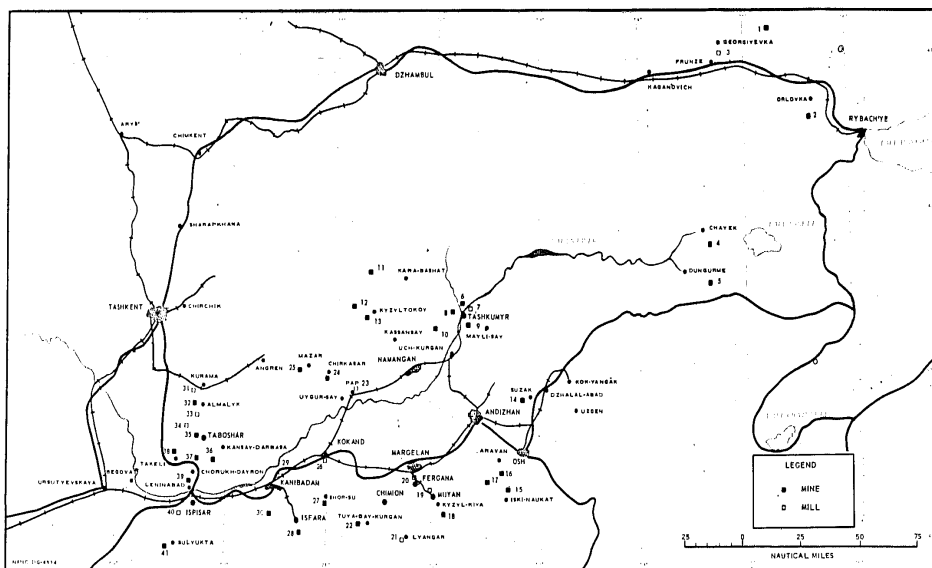
SECRET

NOFORN

SECRET

PIC/JR-1022/61

25X1C



MINING AND MILLING ACTIVITY IN FERGHANA VALLEY AREA, USSR. Map shows areas listed and discussed in this report.

25X1C

SECRET

25X1C

SECRET

NOFORN

PIC/JR-1022/61

REFERENCES

PHOTOGRAPHY

25X1A Acquisition [REDACTED] numbers and dates for all photographic references used are shown in parentheses after each individual item. All photography
25X1C is classified SECRET/Noform [REDACTED] (Downgrading Prohibited).

MAPS AND CHARTS

ACIC. WAC 328, 5th ed, Apr 56, Scale 1:1,000,000 (U)

ACIC. WAC 329, 5th ed, Jul 59, Scale 1:1,000,000 (U)

DOCUMENTS

1/ US Geological Survey, 1954, Uranium and Thorium Resources of the USSR (S)

- 15 -

25X1C

SECRET

NOFORN

25X1C

SECRET

S-11082

X

NOFORN

(DOWNGRADING PROHIBITED)

PIC/TP-3/61
May 1961

JB

1-14-64

JOINT TECHNICAL PUBLICATION

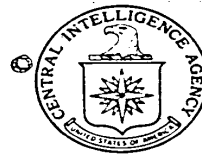
DESIGNATION
OF
FISHBONE ANTENNA CONFIGURATIONS



ARMY



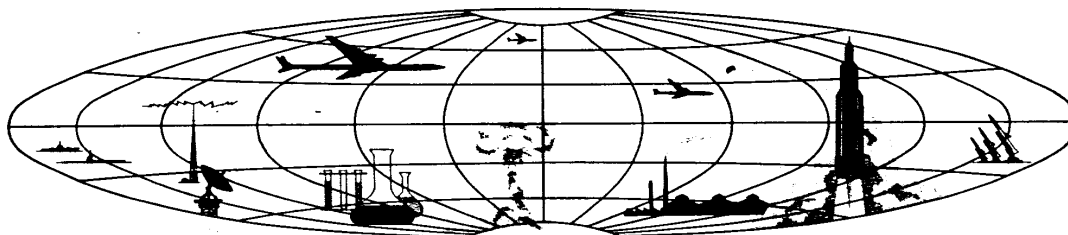
NAVY



CIA

MINICARD COPY

Published and Disseminated by
CENTRAL INTELLIGENCE AGENCY
PHOTOGRAPHIC INTELLIGENCE CENTER



25X1C

SECRET

NOFORN

25X1C

NOFORN

SECRET

JOINT TECHNICAL PUBLICATION

DESIGNATION
OF
FISHBONE ANTENNA CONFIGURATIONS

PIC/TP-3/61

May 1961

MINICARD COPY

Published and Disseminated by
CENTRAL INTELLIGENCE AGENCY
PHOTOGRAPHIC INTELLIGENCE CENTER

25X1C

NOFORN

SECRET

The purpose of this Technical Publication is to establish a designation system for fishbone antenna configurations, to facilitate reporting and describing similar antennas in future NPIC reports. A perspective view of a typical fishbone antenna is shown in Figure 1 and 13 different configurations are diagrammed in Figure 2. Eleven of these configurations have been identified on aerial photography of the USSR. Two configurations (G and H) have not been identified. However, since C and D have been identified, the existence of G and H seems logical.

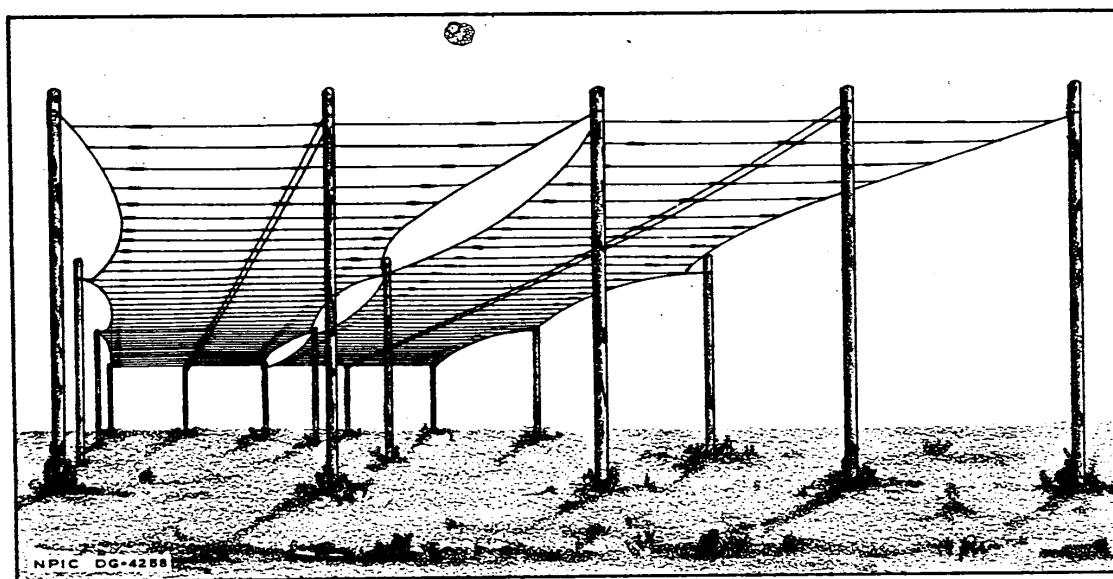


FIGURE 1. TYPICAL FISHBONE ANTENNA. This drawing represents a Type B antenna consisting of two Type A antennas side by side, using joint side poles.

The A configuration and the E configuration are the two basic "building blocks" from which all other known configurations of fishbone antennas are built. For example, two Type A configurations constructed side by side and utilizing common side poles become a type B configuration. A brief physical description of each configuration follows.

SECRET

NOFORN

PIC/TP-3/61

Type	Configuration of Poles	
A	3-2-2-3	Single bay - 3 sub-sections long.*
B	5-3-3-5	Double bay - 2 type A configurations side by side using joint side poles.
C	7-4-4-7	Triple bay - 3 type A configurations side by side using joint side poles.
D	9-5-5-9	Quadruple bay - 4 type A configurations side by side using joint side poles.
E	3-2-3	Single bay - 2 sub-sections long.*
F	5-3-5	Double bay - 2 type E configurations side by side using joint side poles.
G	7-4-7	Triple bay - 3 type E configurations side by side using joint side poles.
H	9-5-9	Quadruple bay - 4 type E configurations side by side using joint side poles.
I	5-3-3-5	Two bay for day/night operation - The wide bay used for night reception and the narrow for day reception.
J	7-4-6-3	One type F configuration and one type A configuration side by side using joint side poles. The type A portion is used for night reception; the type F for day reception.
K	5-3-3-5-3-3-5-3-3-5	Three type B configurations end to end utilizing joint end poles.
L	9-5-5-9-5-5-9	Two type D configurations end to end using joint end poles.
M	7-4-4-7	One type B configuration and one type A configuration side by side using joint side poles. The type A portion is used for night reception. The type B portion is used for day reception.

*The term sub-section is used ONLY to clarify the physical description of the two single bay fishbone configurations and does not constitute an electrical sub-section since the entire length of the antenna is one electrical section.

SECRET

NOFORN

25X1C

NOFORN

SECRET

PIC/TP-3/61

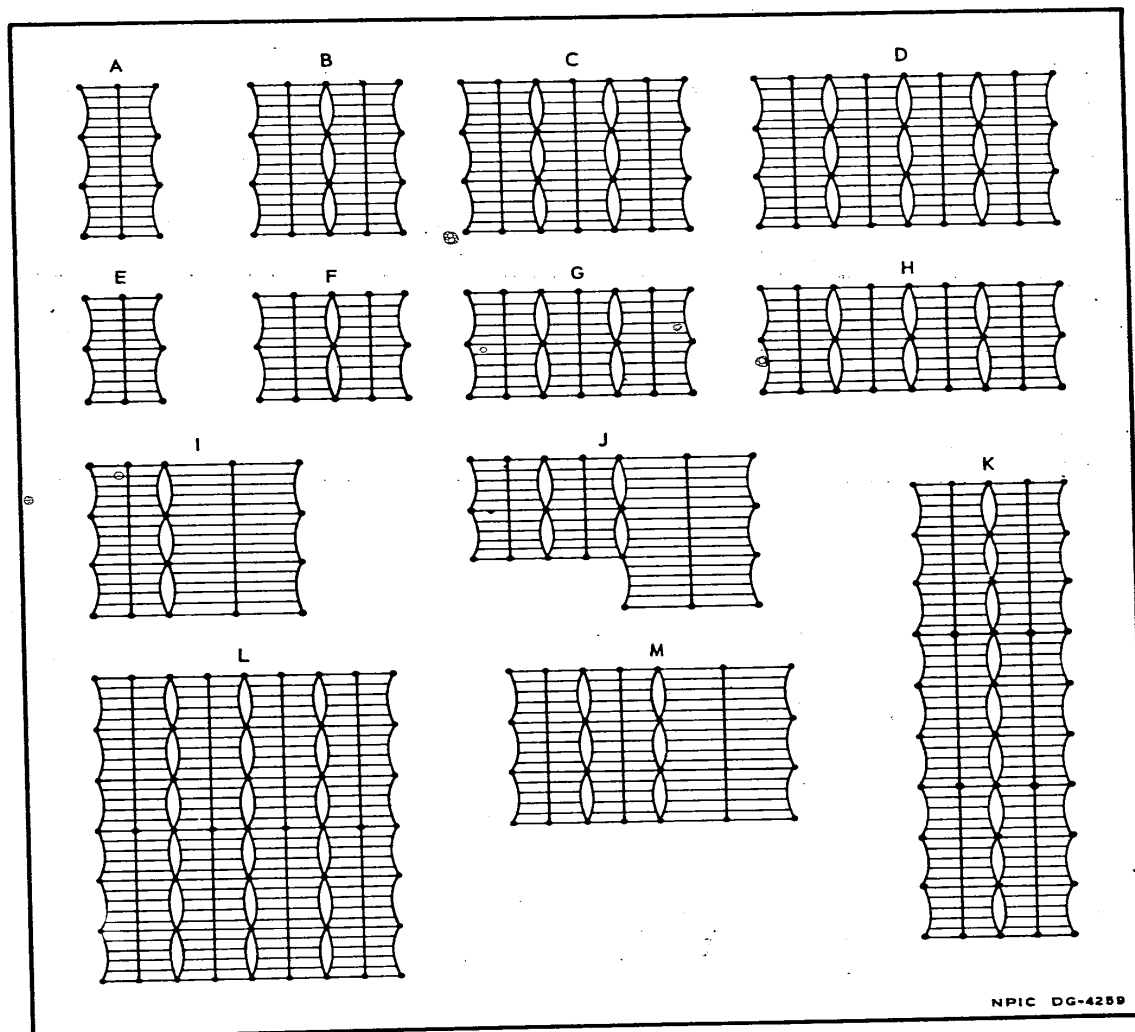


FIGURE 2. THIRTEEN FISHBONE ANTENNA CONFIGURATIONS.

25X1C

NOFORN

SECRET